FQXi "Undecidability, Uncomputability, and Unpredictability" Essay Contest (2019-2020)

THE PATTERN OF CRACKS IS UNPREDICTABLE, BUT NOT TO CRACK IS DECIDABLE

Michael Kowalczyk1

Two opposite forces in the Universe

We live in a Universe that is governed by two opposite forces:

- 1. The laws of physics
- 2. the free will of conscious being.

This is one small truth but an important one and we shall take this as a starting point. If this is the case, we necessarily need to face the problems of the aim of science. One can say that science, and in particular the physical science, needs to predict the future behaviors of the physical systems and then somebody needs to compute this, but most importantly, one has to decide whether or not to carry out these operations that would lead to predictions. Nobel Prize winner Erwin Schrödinger and father of wave mechanics, has said that "the objective of physical science according to the most reserved and cautious group is to foretell what might be called the 'orbit' of the state of the system, its development in time." So, physical science needs to predict. But one can already see the opposition between the two great forces of the universe: *predict* what happens follows the laws of physics, but *computing* this prediction belongs to the sphere of the free will of conscious beings who *decide* to do so.

Irreversibility and decision

Now, it appears that the whole aim of science, its objective as Schrödinger calls it, is to predict things that will happen. However, there is the believe that the laws of physics are inherently invariant under time permutation. This is supposed to have consequences even in the field of quantum mechanics where the collapse of the wave function should instead not allow time reversibility.

So, it seems that the laws of physics can also retrodict the past behaviors of physical systems as well. But this is not true, because of the opposition of the two great forces in the Universe. If there were only the laws of physics in the Universe, then there would not be any opposing forces, and everything will be predictable (in future and past) because everything would be deterministic and time reversibility be true. However, there is in the universe the second great force, namely, the free will of conscious beings. This fundamental truth has been already pointed out by an eminent researcher of the truth the likes of Dmitri Martila, prolific author of papers on viXra, and in his essay he says: "the indeterminism comes into reality through freewill of observer, but the nature itself which is subject of Physics- is perfectly deterministic". But our common understanding of nature can be explained in more detail with a practical example.

¹ Independent researcher.

Example: irreversibility and unpredictability from free will

To understand better how indeterminism and irreversibility arise in the Universe consider the



following. Imagine having a macroscopic physical system. In order to make the example clearer, consider the object to be *fragile*, for instance take a clay pot. Now, the clay pot, since it is defined as fragile, can be easily cracked. The pattern of its cracks is not predictable and once it cracked, this is irreversible. Yet, as seen in the evocative Figure 1 it cracked because of the free will of a conscious being who *decided* to crack it. If the laws of physics alone were acting, the concept of being fragile would be ill-defined. Therefore, it is only the tension between the two opposite great forces of the Universe that make the pattern of cracks unpredictable and the process irreversible.

In other words, once a pot is cracked is cracked, but it is the decision of a conscious being whether to crack it or not.

Ву

https://wellcomeimages.org/indexplus/obf_imag es/14/06/599a490bd56102c82cadce4683b7.jpg Gallery:

https://wellcomeimages.org/indexplus/image/V0 011297.htmlWellcome Collection gallery (2018-03-22):

https://wellcomecollection.org/works/p9x4zh6p CC-BY-4.0, CC BY 4.0,

https://commons.wikimedia.org/w/index.php?cu rid=36462733